

- IRRIGATION PIPE AND LOW VOLTAGE CONTROL VALVE WIRE SHALL BE SLEEVED UNDER PAVING.
- SLEEVES TO BE MINIMUM TWICE THE DIAMETER OF THE PIPE SLEEVED.
- PRESERVE MAINLINE SLEEVES SHALL BE ACCOMPANIED WITH A MINIMUM 2" WIRE SLEEVE.
- SLEEVES TO EXTEND MINIMUM 12" BEYOND PAVING.
- PROTECT ALL SLEEVE ENDS TO PROHIBIT SOIL FROM ENTERING THE SLEEVE.
- IRRIGATION CONTRACTOR TO COORDINATE SLEEVING WITH THE HARDWARE CONTRACTOR PRIOR TO INSTALLATION OF ANY HARDWARE.
- REFER TO LEGEND FOR SLEEVE SPECIFICATION AND PLAN FOR SLEEVE SIZE MATRIX

NO 1/2" PIPE PERMITTED

ALL PIPING, ABOVE GROUND EQUIPMENT, AND ANY VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS. NO IRRIGATION EQUIPMENT SHALL BE LOCATED IN HARDSCAPE OR IN TURF AREAS WITHOUT PERMISSION FROM THE IRRIGATION CONSULTANT. GROUP ALL VALVE BOXES AND LOCATE IN SHRUB AREAS ONLY. CONTRACTOR WILL BE RESPONSIBLE TO RE-LOCATE VALVE BOXES INSTALLED IN TURF AREAS AT NO COST TO THE OWNER.

TWO (2) CONTINUOUS, EXTRA WIRES SHALL BE PROVIDED FOR EACH MAINLINE DIRECTION. ALL EXTRA WIRES SHALL BE LOOPED IN EACH VALVE BOX WITH 24" COIL. TERMINATE IN THE LAST VALVE BOX. BUNDLE ALL EXTRA WIRES IN CONTROLLER. ALL EXTRA WIRE SHALL BE ORANGE IN COLOR.

REFER TO IRRIGATION LEGEND FOR SLEEVE MATERIAL. REFER TO DETAIL FOR BURIAL REQUIREMENTS			
	(2) 2"		(2) 4"
	(3) 2"		(3) 4"
	(4) 2"		(4) 4"
	(2) 3"		(5) 4"
	(3) 3"		(1) 6" + (2) 4"
	(4) 3"		(1) 6" + (3) 4"
			(1) 6" + (4) 4"
 GALVANIZED SLEEVE - TO BE MINIMUM 2X DIAMETER OF PIPE OVER TERRACE DRAIN			

COUNTY OF LOS ANGELES DPH RECYCLED WATER NOTES	
1.	RECYCLED WASTEWATER SHALL MEET REQUIREMENTS SPECIFIED IN "WASTEWATER RECLAMATION CRITERIA". TITLE 22, DIVISION 4, CHAPTER 3, SECTION 60301 THROUGH 60355 OF THE CALIFORNIA CODE OF REGULATIONS AND REGULATIONS AND GUIDELINES OF THE REGULATORY AGENCIES.
2.	RECYCLED WASTEWATER USE SHALL BE COMPATIBLE WITH STATE DEPARTMENT OF PUBLIC HEALTH AND REGIONAL WATER QUALITY CONTROL BOARD REQUIREMENTS.
3.	PLANS AND SPECIFICATIONS FOR RECYCLED WASTEWATER DISTRIBUTION, USE AND OPERATIONAL PRACTICES SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH PRIOR TO IMPLEMENTATION AND CONSTRUCTION.
4.	PRIOR TO COMMENCING CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH TO ARRANGE FOR INSPECTION OF ALL ON-SITE RECYCLED AND POTABLE WATER WORK. NO EXCAVATION OR OPEN TRENCH MAY BE BACKFILLED WITHOUT FIRST SECURING HEALTH DEPARTMENT APPROVAL. IF ANY PIPING, RECYCLED OR POTABLE, IS INSTALLED PRIOR TO PLAN CHECK APPROVAL AND/OR INSPECTION, ALL OR ANY PORTION OF THE SYSTEM MAY BE REQUIRED TO BE EXPOSED AND CORRECTED AS NECESSARY.
5.	A LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH APPROVED TEMPORARY WATER CONNECTION TO A POTABLE WATER SUPPLY, VIA A, APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE, SHALL BE UTILIZED FOR THE PURPOSES OF FLUSHING, PRESSURE TESTING, CONSTRUCTION USES, INITIAL LANDSCAPE USE AND THE FINAL CROSS-CONNECTION TEST.
6.	SEPARATION - IN ORDER TO MINIMIZE CONSTRUCTION ACCIDENTS RESULTING IN PIPELINE BREAKS, INFILTRATION OF WASTEWATER FROM LEAKING WASTEWATER LINES INTO DOMESTIC WATER LINES, OR ACCIDENTAL CROSS-CONNECTIONS BETWEEN RECYCLED WASTEWATER AND POTABLE WATER SYSTEMS, MAXIMUM ATTAINABLE SEPARATION OF RECYCLED WASTEWATER LINES AND POTABLE WATER LINES SHALL BE PRACTICED. A. PARALLEL CONSTRUCTION THERE SHALL BE AT LEAST A TEN FOOT (10') SEPARATION, ALL DISTANCES MEASURED FROM PIPELINE OUTSIDE DIAMETER. B. CROSS-OVER CONSTRUCTION - AS PERPENDICULAR AS POSSIBLE; ONE FOOT (1') SEPARATION, WITH POTABLE ABOVE RECYCLED; FULL PIPE LENGTH CENTERED OVER CROSSING. C. ALTERNATE CROSS-OVER CONSTRUCTION (DISTANCE NOT MAINTAINED): EITHER THE POTABLE OR RECYCLED WATER LINES MAY BE SLEEVED WITH THE SAME CLASS PIPING FOR ONE FULL PIPE LENGTH (MINIMUM TEN FEET) CENTERED OVER THE CROSS-OVER. D. THE RECYCLED WASTEWATER SYSTEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH POTABLE WATER SYSTEM CONSTRUCTION STANDARDS AND IN ACCORDANCE WITH ALL OTHER GOVERNING CODES, RULES AND REGULATIONS. E. UNUSED OR ABANDONED POTABLE WATER LINES ARE TO BE SEVERED AS CLOSE TO WATER MAINS AS PRACTICAL, CAPPED AND A TEN-FOOT SECTION OF ABANDONED LINE REMOVED AND CEMENTED UNDER HEALTH DEPARTMENT SUPERVISION. EXISTING ON-SITE PIPING - TO THE EXTENT FEASIBLE, MAXIMUM SEPARATION OF RECYCLED WASTEWATER AND POTABLE WATER LINES SHALL BE PRACTICED UPON SYSTEM ADDITION OR MODIFICATION.
7.	IDENTIFICATION: ALL RECYCLED WASTEWATER LINES (PRESSURE/NON-PRESSURE), VALVE BOXES, HYDRANTS AND APPURTENANCES SHALL BE IDENTIFIED TO CLEARLY DISTINGUISH BETWEEN RECYCLED WASTEWATER, NON-POTABLE AND POTABLE WATER SYSTEMS. A. RECYCLED WASTEWATER - ALL BURIED RECYCLED WASTEWATER LINES (PRESSURE/NON-PRESSURE) SHALL BE PURPLE COLORED PIPE WITH CONTINUOUS WORDING "CAUTION RECYCLED WATER" PRINTED ON OPPOSITE SIDES OF THE PIPE. FOR LIMITED APPLICATION, THE USE OF CONTINUOUS LETTERING ON THREE INCH (3") MINIMUM WIDTH PURPLE TAPE WITH ONE INCH BLACK OR WHITE CONTRASTING LETTERING BEARING THE CONTINUOUS WORDING "CAUTION RECYCLED WATER" PERMANENTLY AFFIXED AT FIVE FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS AND MAINS. IDENTIFICATION TAPE SHALL EXTEND TO ALL VALVE BOXES AND/OR VAULTS, EXPOSED PIPING AND HYDRANTS. IDENTIFICATION TAPE IS NOT NECESSARY FOR EXTRUDED COLORED PVC WITH CONTINUOUS WORDING "POTABLE WATER" PRINTED IN CONTRASTING LETTERING ON OPPOSITE SIDES OF THE PIPE. B. POTABLE WATER - ALL POTABLE WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE AND ALL BURIED POTABLE WATER LINES SHALL BE IDENTIFIED BY CONTINUOUS LETTERING ON OTHER GOVERNING CODES, RULES AND REGULATIONS. ALL THREE INCH (3") MINIMUM WIDTH BLUE TAPE WITH ONE INCH WHITE LETTERING BEARING THE CONTINUOUS WORDING "POTABLE WATER" PERMANENTLY AFFIXED AT TEN FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS AND MAINS. IDENTIFICATION TAPE SHALL EXTEND TO ALL VALVE BOXES AND/OR VAULTS, EXPOSED PIPING AND HYDRANTS. IDENTIFICATION TAPE IS NOT NECESSARY FOR EXTRUDED COLORED PVC WITH CONTINUOUS WORDING "POTABLE WATER" PRINTED IN CONTRASTING LETTERING ON OPPOSITE SIDES OF THE PIPE. C. NON-POTABLE WATER - ALL NON-POTABLE IRRIGATION/INDUSTRIAL WATER LINES (PRESSURE/NON-PRESSURE) SHALL BE IDENTIFIED BY CONTINUOUS LETTERING ON THREE INCH (3") MINIMUM WIDTH TAPE WITH ONE INCH CONTRASTING LETTERING BEARING THE CONTINUOUS WORDING "NON-POTABLE WATER" PERMANENTLY AFFIXED AT TEN FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS AND MAINS. IDENTIFICATION TAPE SHALL EXTEND TO ALL VALVE BOXES AND/OR VAULTS, EXPOSED PIPING, HYDRANTS AND QUICK COUPLERS. D. EXPOSED PIPING: VALVE BOXES, VAULTS, CONTROL VALVES, QUICK COUPLING VALVES, OUTLETS AND RELATED APPURTENANCES SHALL BE COLOR CODED AND LABELED OR TAGGED TO DIFFERENTIATE BETWEEN RECYCLED WASTEWATER, POTABLE WATER AND NON-POTABLE WATER SYSTEMS, I.E., I. "CAUTION RECYCLED WATER DO NOT DRINK" IN BLACK OR WHITE CONTRASTING LETTERING ON A PURPLE BACKGROUND. II. "POTABLE WATER" IN WHITE LETTERING ON A BLUE OR GREEN BACKGROUND. III. "NON-POTABLE WATER - DO NOT DRINK" IN CONTRASTING LETTERING FROM THE BACKGROUND. TAGS SHALL BE IDENTIFIED WITH THE APPROPRIATE WORDING ON BOTH SIDES. TAGS IDENTIFYING RECYCLED WATER SHALL HAVE THE APPROPRIATE WORDING ON ONE SIDE AND SYMBOL ON THE OPPOSITE SIDE. 8. AQUIFERS SHALL BE PROTECTED AGAINST CONTAMINATION BY RECYCLED WASTEWATER VIA DETERIORATED OR INADEQUATELY PROTECTED WATERWELL CASINGS BY CORRECTING THESE PHYSICAL DEFICIENCIES. RECYCLED WASTEWATER SHALL NOT BE SPRAYED ON WELL PUMP INSTALLATIONS AND APPURTENANCES. 9. AN ON-SITE WATER SUPERVISOR HAVING THE RESPONSIBILITY FOR THE PROTECTION OF THE POTABLE WATER SYSTEM FROM CROSS-CONNECTIONS, SHALL BE APPOINTED AS PROVIDED FOR UNDER TITLE 17, SECTION 7586, CALIFORNIA CODE OF REGULATIONS. THE WATER SUPERVISOR SHALL BE RESPONSIBLE FOR INSTALLATION, OPERATION, AND MAINTENANCE OF THE RECYCLED WASTEWATER AND POTABLE WATER SYSTEMS, PREVENTION OF POTENTIAL HAZARDS, IMPLEMENTING THESE GUIDELINES AND COORDINATION WITH THE CROSS-CONNECTION CONTROL PROGRAM OF THE WATER PURVEYOR AND THIS DEPARTMENT. AUTHORIZATIONS FOR PIPING CHANGES OR ADDITIONS TO EITHER THE POTABLE OR RECYCLED WASTEWATER SYSTEMS SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE WATER SUPERVISOR. THE NAME AND POSITION OF THIS INDIVIDUAL SHALL BE REPORTED TO THE WATER PURVEYOR AND THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH. 10. AS-BUILT PLANS SHALL BE PREPARED AND UPDATED AS NECESSARY BY THE USER SHOWING THE LOCATION OF RECYCLED WASTEWATER AND POTABLE WATER SYSTEM PIPING. 11. IN AREAS OF PUBLIC ACCESS TO RECYCLED WASTEWATER SYSTEMS, HOSE BIBS SHALL NOT BE PERMITTED IN ORDER TO PREVENT THE UNAUTHORIZED USE OF RECYCLED WASTEWATER. QUICK-COUPERS ARE PERMISSIBLE IN LIEU OF HOSE BIBB OUTLETS AND SHALL ONLY BE CONNECTED TO RECYCLED WASTEWATER LINES. IN AREAS NOT ACCESSIBLE TO THE PUBLIC, HOSE BIBBS MAY BE PERMITTED PROVIDED THEY ARE PROPERLY IDENTIFIED WITH PERMANENTLY AFFIXED TAGS, LABELS, OR PLATES WITH THE WORDING "RECYCLED WATER - DO NOT DRINK" IN ENGLISH AND SYMBOL. 12. EXPOSURE OF DRINKING FOUNTAINS AND PICNIC TABLES TO DIRECT RECYCLED WASTEWATER SPRAY SHALL BE MINIMIZED BY A COMBINATION OF SELECTIVE LOCATION OF SUCH EQUIPMENT AND BY APPROPRIATE IRRIGATION SYSTEM DESIGN. A. RECYCLED WASTEWATER SPRAYING SHALL BE DONE IN HOURS OF LEAST PUBLIC EXPOSURE. B. AREAS WHERE RECYCLED WASTEWATER IS RELEASED, USED OR IMPOUNDED SHALL BE POSTED (E.G., RECYCLED WATER - DO NOT DRINK), TO INFORM THE PUBLIC THAT RECYCLED WATER IS BEING USED. C. IRRIGATION PRACTICE SHALL BE CONTROLLED TO PREVENT SURFACE RUNOFF OF RECYCLED WASTEWATER FROM LANDS OWNED OR CONTROLLED BY THE USER. 13. BACKFLOW PROTECTION A. THERE SHALL BE NO INTERCONNECTION BETWEEN THE POTABLE WATER SYSTEM AND THE RECYCLED WATER SYSTEM WITHIN THE USER'S PREMISES. B. A DYE OR PRESSURE TEST MUST BE UTILIZED TO CONFIRM THE PHYSICAL SEPARATION OF THE RECYCLED AND POTABLE WATER SYSTEMS. SAID TESTING SHALL BE PERFORMED IN CONJUNCTION WITH THE WATER PURVEYOR AND THIS DEPARTMENT AND CONDUCTED BEFORE THE INTRODUCTION OF RECYCLED WASTEWATER. (REFER TO ITEM # 5) C. AN APPROVED BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED AT THE POTABLE WATER SERVICE CONNECTION(S). D. IN ORDER TO MAINTAIN THE WATER QUALITY IN A RECYCLED WASTEWATER DISTRIBUTION SYSTEM A BACKFLOW PREVENTION DEVICE(S) MAY BE REQUIRED AT THE RECYCLED WASTEWATER METER OR AT SPECIFIC ON-SITE LOCATIONS WHERE SAID USE COULD DEGRADE THE QUALITY OF THE RECYCLED WASTEWATER SUPPLY.

GENERAL IRRIGATION NOTES	
1.	ALL MAIN LINE AND LATERAL LINE PIPING AND CONTROL WIRES UNDER PAVING SHALL BE INSTALLED IN SEPARATE SLEEVES. MAIN AND LATERAL LINE SLEEVES SHALL BE A MINIMUM OF TWICE (2X) THE DIAMETER OF THE PIPE TO BE SLEEVED. CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES UNDER PAVING.
2.	PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWING. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF SAID REJECTION.
3.	INSTALL ALL PIPING BETWEEN THE POINT OF CONNECTION AND THE BASKET STRAINER OR THE R.P. BACKFLOW PREVENTOR AS PER LOCAL CODES.
4.	FINAL LOCATION OF THE AUTOMATIC CONTROLLER AND BASKET STRAINER OR THE R.P. BACKFLOW SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND IRRIGATION CONSULTANT PRIOR TO INSTALLATION.
5.	120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE IRRIGATION CONTRACTOR SHALL MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER, PER LOCAL ELECTRICAL CODES.
6.	ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
7.	THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS AND VALVES FOR OPTIMUM COVERAGE WITH MINIMAL OVERSPRAY ONTO WALKS, STREETS, WALLS, ETC.
8.	THE IRRIGATION DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.
9.	IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO BECOME FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, STRUCTURES AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY THEIR WORK. WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, AND PAVING, ETC.
10.	THE SPRINKLER SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE AS SHOWN ON THE PLANS. CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO START OF WORK. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES, OR DIFFERENCES IN THE AREA EXIST THAT ARE NOT SHOWN ON THE PLANS. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
12.	ALL SPRINKLER EQUIPMENT NOT DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
13.	THE IRRIGATION CONTRACTOR SHALL INSTALL KBI SERIES ANTI DRAIN VALVES ON ALL HEADS IN AREAS WHERE FINISH GRADE EXCEEDS 4:1, WHERE POST VALVE SHUT-OFF DRAINING OF THE IRRIGATION SYSTEM OCCURS OR AS DIRECTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
14.	THE CONTRACTOR SHALL PROVIDE PRESSURE COMPENSATION SCREENS (PCS) AS NECESSARY TO ELIMINATE OVERSPRAY ONTO STREETS, WALKS OR OTHER AREAS AS DIRECTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
15.	SHRUB HEADS AND RISERS MAY BE SUBSTITUTED FOR POP-UP HEADS IN PLANTED AREAS EXCEPT WHERE ADJACENT TO TRAFFIC AREAS SUCH AS WALKS, CURBS, TURF LINES, MONUMENTS, FOUNTAINS, OR SIGNAGE. REFER TO INSTALLATION DETAILS.

RAINBIRD ROTOR LEGEND - RECYCLED WATER									
SYMBOL	DESCRIPTION	MANUFACTURER	PART NO.	NOZZLE	PATTERN	FLOW	RADIUS	PRES	PRECIP
TURF POP UP HEADS									
	TURF ROTOR	RAINBIRD	1806 SAM PRS NP	R13-18 F	FULL	1.60	16'	30	0.61
	TURF ROTOR	RAINBIRD	1806 SAM PRS NP	R13-18 H	HALF	0.80	16'	30	0.61
	TURF ROTOR	RAINBIRD	1806 SAM PRS NP	R13-18 Q	QRTR	0.40	16'	30	0.61
	TURF ROTOR	RAINBIRD	1806 SAM PRS NP	R13-18 T	THRD	0.65	16'	30	0.61
	TURF ROTOR	RAINBIRD	1806 SAM PRS NP	R17-24 F	FULL	3.00	21'	30	0.65
	TURF ROTOR	RAINBIRD	1806 SAM PRS NP	R17-24 H	HALF	1.50	21'	30	0.65
	TURF ROTOR	RAINBIRD	1806 SAM PRS NP	R17-24 Q	QRTR	0.75	21'	30	0.65
	TURF ROTOR	RAINBIRD	1806 SAM PRS NP	R17-24 T	THRD	1.22	21'	30	0.65
	TURF ROTOR	RAINBIRD	5006 PL-R SAM FC NP	MPR 25 FULL	FULL	3.82	25'	45	0.59
	TURF ROTOR	RAINBIRD	5006 PL-R SAM PC NP	MPR 25 HALF	HALF	1.98	25'	45	0.61
	TURF ROTOR	RAINBIRD	5006 PL-R SAM PC NP	MPR 25 QRTR	QRTR	1.00	25'	45	0.62
	TURF ROTOR	RAINBIRD	5006 PL-R SAM PC NP	MPR 25 THRD	THRD	1.38	25'	45	0.64
	TURF ROTOR	RAINBIRD	5006 PL-R SAM FC NP	MPR 30 FULL	FULL	5.78	30'	45	0.62
	TURF ROTOR	RAINBIRD	5006 PL-R SAM PC NP	MPR 30 HALF	HALF	2.96	30'	45	0.63
	TURF ROTOR	RAINBIRD	5006 PL-R SAM PC NP	MPR 30 QRTR	QRTR	1.40	30'	45	0.60
	TURF ROTOR	RAINBIRD	5006 PL-R SAM PC NP	MPR 30 THRD	THRD	1.85	30'	45	0.59
	TURF ROTOR	RAINBIRD	5006 PL-R SAM FC NP	MPR 35 FULL	FULL	7.58	35'	45	0.60
	TURF ROTOR	RAINBIRD	5006 PL-R SAM PC NP	MPR 35 HALF	HALF	3.81	35'	45	0.60
	TURF ROTOR	RAINBIRD	5006 PL-R SAM PC NP	MPR 35 QRTR	QRTR	1.92	35'	45	0.60
	TURF ROTOR	RAINBIRD	5006 PL-R SAM PC NP	MPR 35 THRD	THRD	2.46	35'	45	0.58

NOTE: ALL IRRIGATION HEADS ARE SPECIFIED WITH PURPLE NON-POTABLE IDENTIFICATION CAPS.

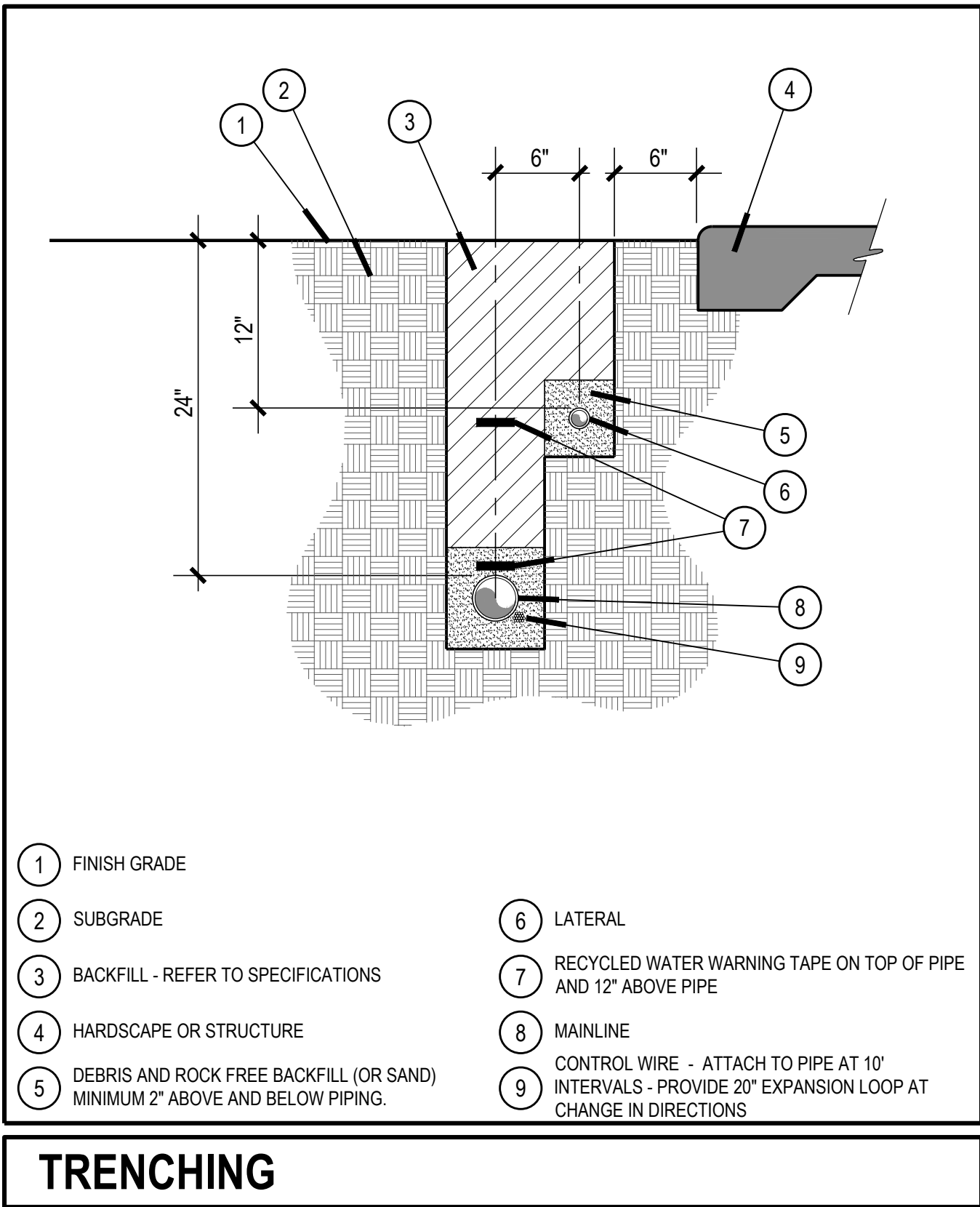
IRRIGATION EQUIPMENT LEGEND		
SYMBOL	ITEM - MANUFACTURER - MODEL NUMBER - DESCRIPTION	
	RECYCLED WATER METER	CONTRACTOR TO FURNISH AND INSTALL RECYCLED WATER METER REFER TO PLAN FOR SIZE - VERIFY STATIC WATER PRESSURE AND REPORT TO IRRIGATION CONSULTANT PRIOR TO START OF WORK
	GATE VALVE	NIBCO T-113-K IRR BRONZE CROSS TOP - LINE SIZE UP TO 3"
	PRESSURE REGULATOR	WILKINS 600 HR BRONZE PRESSURE REDUCING VALVE WITH FILTER SCREEN REFER TO PLAN FOR SIZE AND PRESSURE SETTING
	BASKET STRAINER	KECKLEY SSGVF CLASS 150 CAST 316 STAINLESS STEEL BASKET STRAINER WITH 60 MESH STAINLESS STEEL SCREEN - REFER TO PLAN FOR SIZE
	MASTER VALVE	CITY OF TORRANCE TO FURNISH AND CONTRACTOR TO INSTALL 2" NORMALLY OPEN METAFIM HYDROMETER WITH READ SWITCH
	CONTROL VALVE	RAINBIRD PESB-R CONTROL VALVE - REFER TO PLAN FOR SIZES
	CONTROL VALVE DRIP	RAINBIRD PESB-R 1" CONTROL VALVE INCLUDE A RAINBIRD PRB-QKCHK-100 40 PSI PRESSURE REGULATING 120 MESH QUICK CHECK BASKET FILTER (SPECIAL ORDER ITEM)
	QUICK COUPLER	HUNTER HQ44-LRC-AW-R 1" ACME QUICK COUPLER WITH PURPLE VINYL LOCKING COVER INCLUDE TWO (2) HK-44A KEYS WITH HS1 SWIVEL PER CONTROLLER
	TREE IRRIGATION	THREE (3) RAINBIRD 1806 SAM PRS - POP UP SPRAY HEADS WITH 5H-B NOZZLES AND PCS 020 BROWN SCREENS
	FLUSH VALVE	1/2" PVC BALL VALVE FOR DRIP SYSTEM END FLUSH
	RECYCLED WATER SIGN	RECYCLED WATER WARNING ID SIGN - T-CHRISTY MODEL ID-SIGN 3.5 (12" X 18") ALUMINUM WITH 1-1/2" SQUARE ALUMINUM POST
	CONTROLLER	CONTRACTOR TO FURNISH AND INSTALL A STRONGBOX SB-18SS FRONT MOUNTED STAINLESS STEEL ENCLOSURE. CITY OF TORRANCE TO FURNISH AND CONTRACTOR TO INSTALL A 24 STATION RAINMASTER EAGLE CONTROLLER BACKPLATE ASSEMBLY IN ENCLOSURE, INCLUDING RADIO ANTENNAE. 110VAC POWER CONNECTION TO BE PROVIDED AS INDICATED ON ELECTRICAL PLAN.
	BELOW GRADE PRESSURE MAINLINE	PURPLE CLASS 315 PRESSURE MAINLINE FOR PIPE 2" THROUGH 3" PURPLE SCH 40 PRESSURE MAINLINE FOR PIPE 1-1/2" AND SMALLER ALL PIPE TO BE SOLVENT WELD REFER TO TRENCHING DETAIL FOR DEPTHS
	BELOW GRADE LATERAL LINE	PURPLE SCHEDULE 40 SOLVENT WELD PVC - 3/4" MINIMUM REFER TO PLAN FOR SIZES AND TRENCHING DETAIL FOR BURIAL DEPTHS
	DRIP LATERAL	PURPLE SCHEDULE 40 SOLVENT WELD PVC - 3/4" MINIMUM REFER TO SHRUB EMITTER DETAIL FOR BURIAL DEPTHS.
	TREE IRRIGATION LATERAL	PURPLE SCHEDULE 40 SOLVENT WELD PVC LATERAL LINE - 3/4" MINIMUM REFER TO PLAN FOR SIZES AND TRENCHING DETAIL FOR BURIAL DEPTHS
	SLEEVE	PURPLE SCHEDULE 40 PVC REFER TO SLEEVING LEGEND FOR QUANTITY AND SIZE
	FLOW SENSOR CABLE	RAINMASTER EV-CAB-SEN TWO WIRE FLOW SENSOR CABLE IN A GRAY SCHEDULE 40 PVC 1-1/4" CONDUIT WITH PULL BOXES AT 200' O.C. - NO SPLICES
	DOMESTIC WATER LINE	DOMESTIC WATER LINES PER CIVIL PLANS - FOR REFERENCE ONLY
	RECYCLED WATER LINE	RECYCLED WATER LINES PER CIVIL PLANS - FOR REFERENCE ONLY
	DRIP EMITTERS	RAINBIRD XB - 20 PC -1032 2 GPH THREADED PRESSURE COMPENSATING DRIP EMITTERS ON GPH IRRIGATION PRODUCTS GIH-12 1/2" X 12" FLEXIBLE SCHEDULE 40 RISER. REFER TO SCHEMATIC AND EMITTER DETAILS.
	IRRIGATION WIRE	PIAIGE 7001D UL LISTED U.F. 600V DIRECT BURIAL PILOT WIRE 14 AWG BLACK COMMON 14 AWG WHITE WITH BLACK STRIPE EXTRA WIRE 14 AWG ORANGE FUTURE WIRE 14 AWG YELLOW
	WIRE CONNECTORS	3M DBY OR 3M DBR WATERPROOF DIRECT BURY CONNECTORS
	MAINLINE FITTINGS	PRESSURE MAINLINE FITTINGS TO BE SCHEDULE 40 PVC SOLVENT WELD
	LATERAL FITTINGS	NON-PRESSURE LATERAL LINE FITTINGS TO BE SCHEDULE 40 PVC SOLVENT WELD (ABOVE GRADE PIPE FITTINGS SHALL BE UVR)
	ID TAGS	T-CHRISTY ID-MAX-P2-RC006 PURPLE BILINGUAL RECYCLED WATER WARNING TAG - PER VALVE
	VALVE BOX	RECTANGULAR CARSON 1419 - 14" X 19" CIRCULAR CARSON 910 - 10" ROUND JUMBO CARSON 1220 - 12" X 20" JUMBO BOX / LID COLOR: PURPLE - INCLUDE BOLT DOWN LOCKING LID
	DENOTES STATION NUMBER	
	DENOTES VALVE FLOW (GPM)	
	DENOTES VALVE SIZE	

IRRIGATION PRESSURE CALCULATION TABLE						
Water Meter No.	1	Size	1.50"			
Hydraulic Gradient	330.0'					
Elevation of Meter	98.0'					
Static Pressure	100 psi					
Source of Information	DAVE DELSEEM - SCWD					
Phone Number	310-420-8554					
Date of Information	4/16/2014					
Basis for Calculation	Longest Run/Highest Elevation/Highest Flow					
Valve Information						
Remote Control Valve	A10	Size	1.00"			
Demand	15 GPM					
Elevation of Highest Head	99.0'					
Friction Loss						
QTY.	SIZE	FLOW	ITEM	TYPE	PSI LOSS	
40'	1.50"	15 GPM	Service Line	Copper	0.43	
1	1.50"	15 GPM	Water Meter		0.45	
1	1.50"	15 GPM	RP Backflow w/ Strainer			
1	1.50"	15 GPM	Basket Strainer		6.00	
1	1.50"	15 GPM	Master Valve		2.30	
1	1.50"	15 GPM	Flow Sensor		0.10	
2	2.00"	15 GPM	Gate Valves		0.01	
275'	2.00"	15 GPM	Mainline	PVC	0.57	
	1.00"	15 GPM	Automatic Control Valve		2.70	
			Lateral Line Loss		4.00	
			Frictions Loss (10%)		1.66	
			Elevation Change		0.43	
Total System Losses					19 psi	
Pressure Required to Operate Head (MPR Rotor)					45 psi	
Residual Percent Required (%)					15%	
Pressure Required with Residual					73 psi	
Static Pressure at Water Meter					100 psi	
Residual Pressure					27 psi	
Set Pressure Regulator to					81 psi	

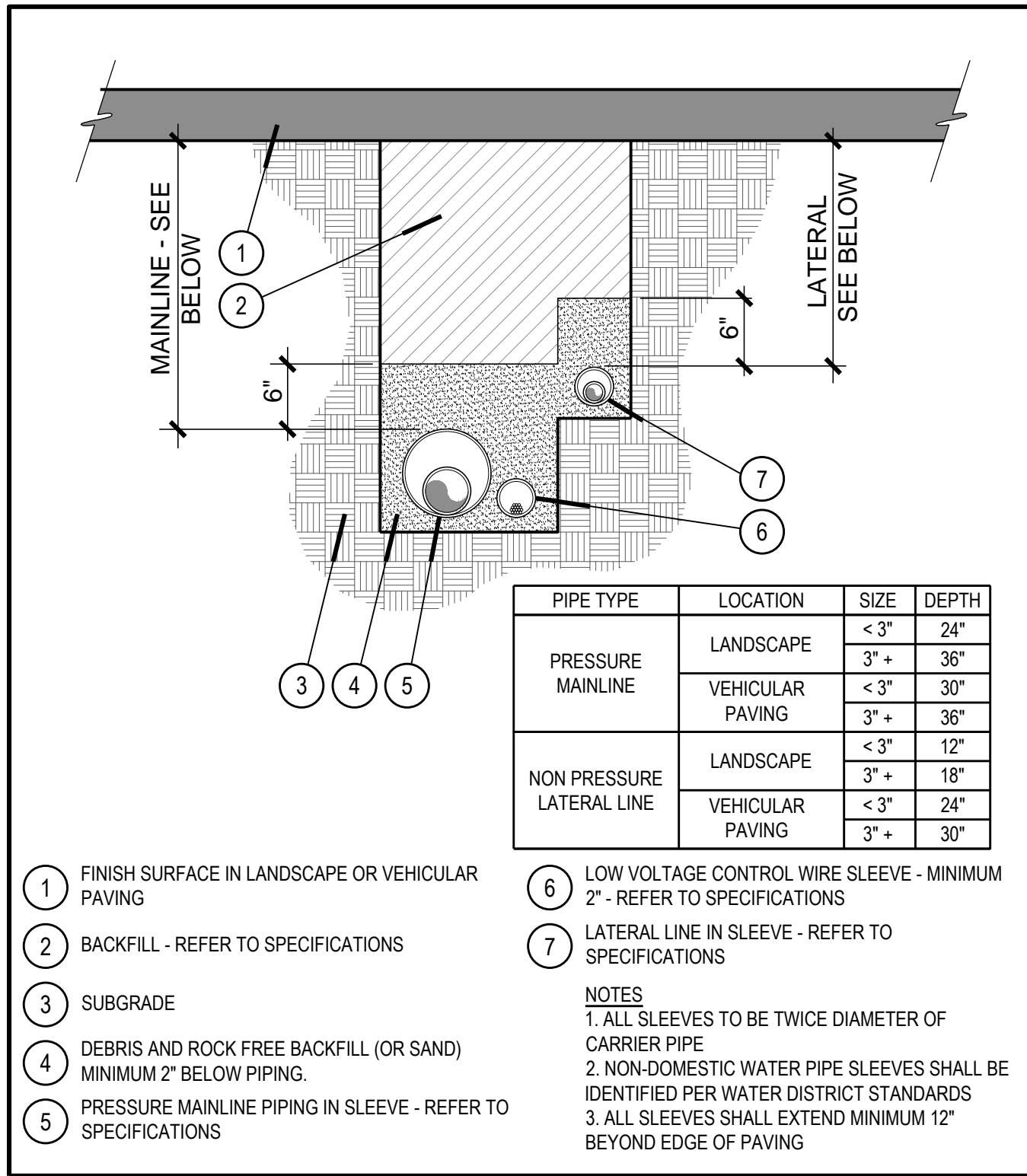
WATER USAGE ESTIMATION									
Controller A									
CATEGORY	UNITS	1	2	3	4	5	6	7	8
HYDROZONE CALLOUT									
HYDROZONE		TURF	SHRUB						
WATER USE REQUIREMENT		MODERATE	MODERATE						
HYDROZONE AREA (HA)	Square Feet	10,092	5,668						
IRRIGATION METHOD		ROTOR	DROP						
WATER TYPE		RECYCLED	RECYCLED						
SPECIAL LANDSCAPE AREA (SLA)		YES	YES						
SPECIAL LANDSCAPE AREA	Square Feet	10992	5668						
PERCENT AREA USE	Percentage	65%	35%						
YEARLY ETO ***	Inches / Year	42.80	42.80						
YEARLY AVG PLANT FACTOR (PF)	Percentage	0.60	0.50						
ESTIMATED EFFICIENCY (IE)	Percentage	85%	90%						
ESTIMATED WATER USAGE PER ZONE (EWU)	Gallons / Year	211,758	83,168						
	Ac Ft / Year	0.65	0.25						
ESTIMATED TOTAL WATER USAGE	Gallons / Year					394			
	Ac Ft / Year					294.966			
	Gallons / Year					0.955			
MAXIMUM APPLIED WATER ALLOWANCE	Gallons / Year					570			
	Ac Ft / Year					432.100			
						1.33			
FORMULAS									
MAWA = Eto x 0.62 x [(0.7 x LA) + (0.3 x SLA)]		TOTAL LANDSCAPE AREA		TOTAL SPECIAL LANDSCAPE AREA		UNITS		SITE IRRIGATION EFFICIENCY	
ETWU = Eto x 0.62 x [(PF x HA) + IE]		16,360		16,360		SQ. FT.		85%	
		0.38		0.38		ACRES		0.50	
								YES	
*** Yearly Eto obtained from CIMIS Map Zone									

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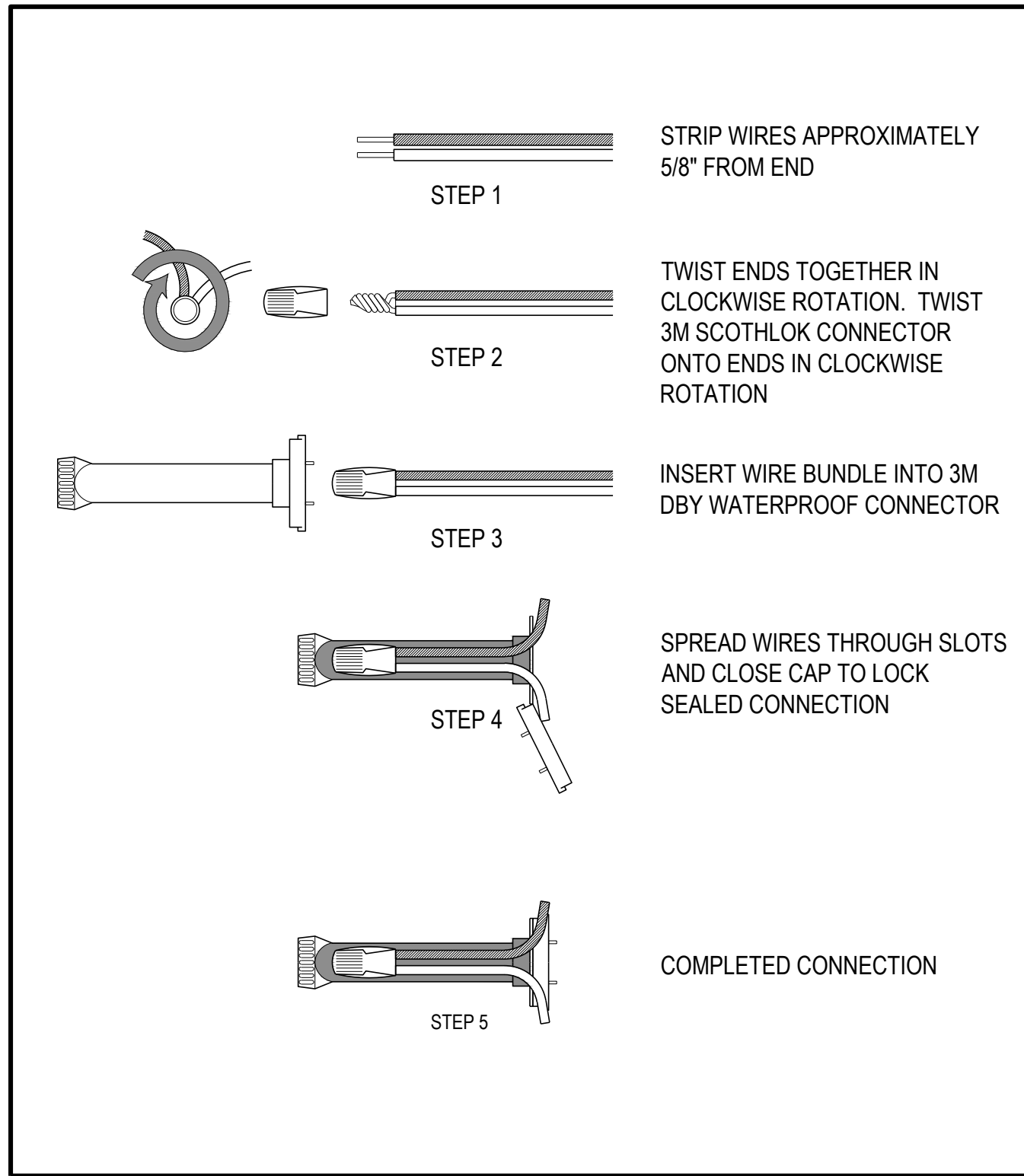




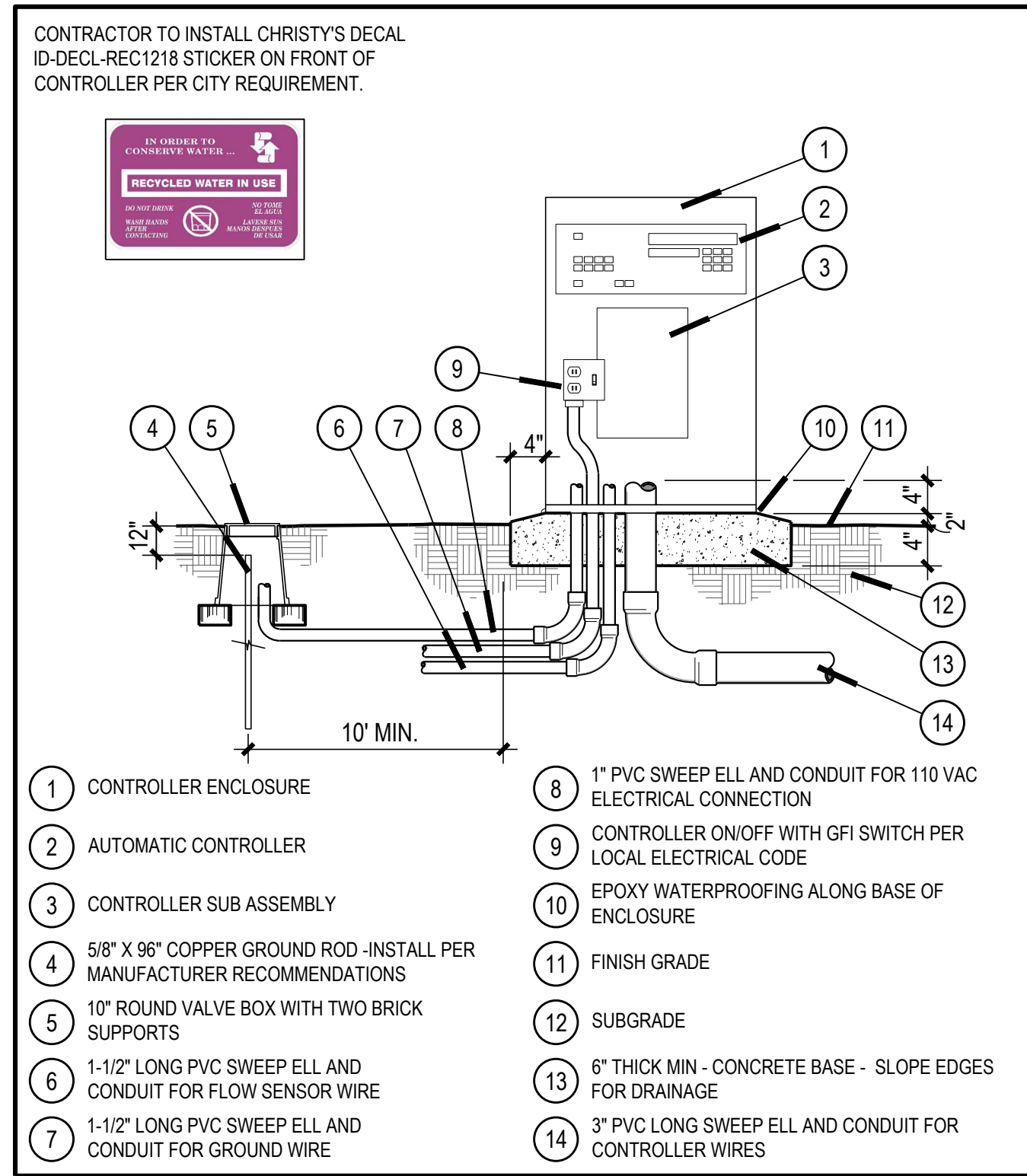
TRENCHING



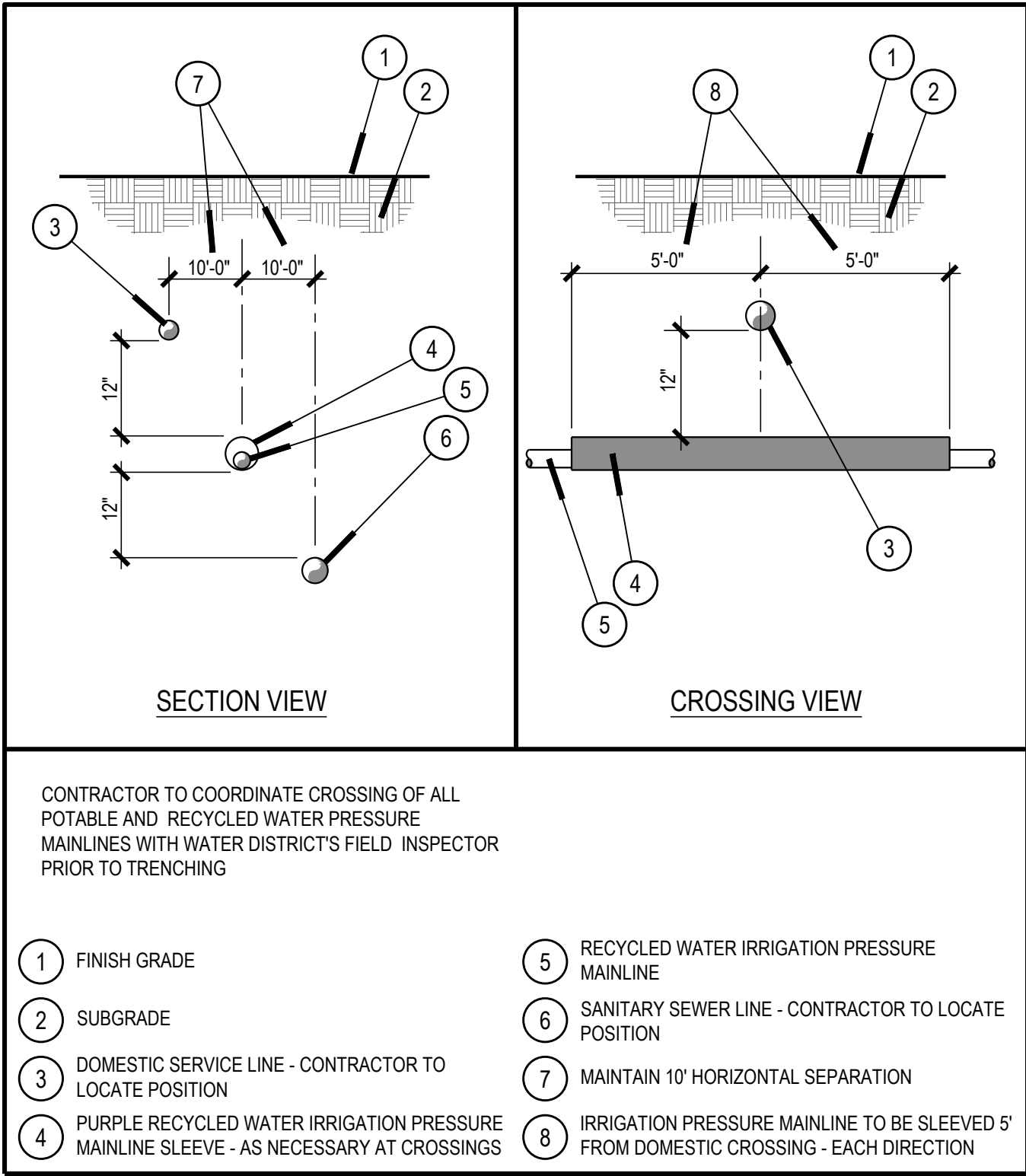
PIPES UNDER PAVING



WIRE CONNECTIONS

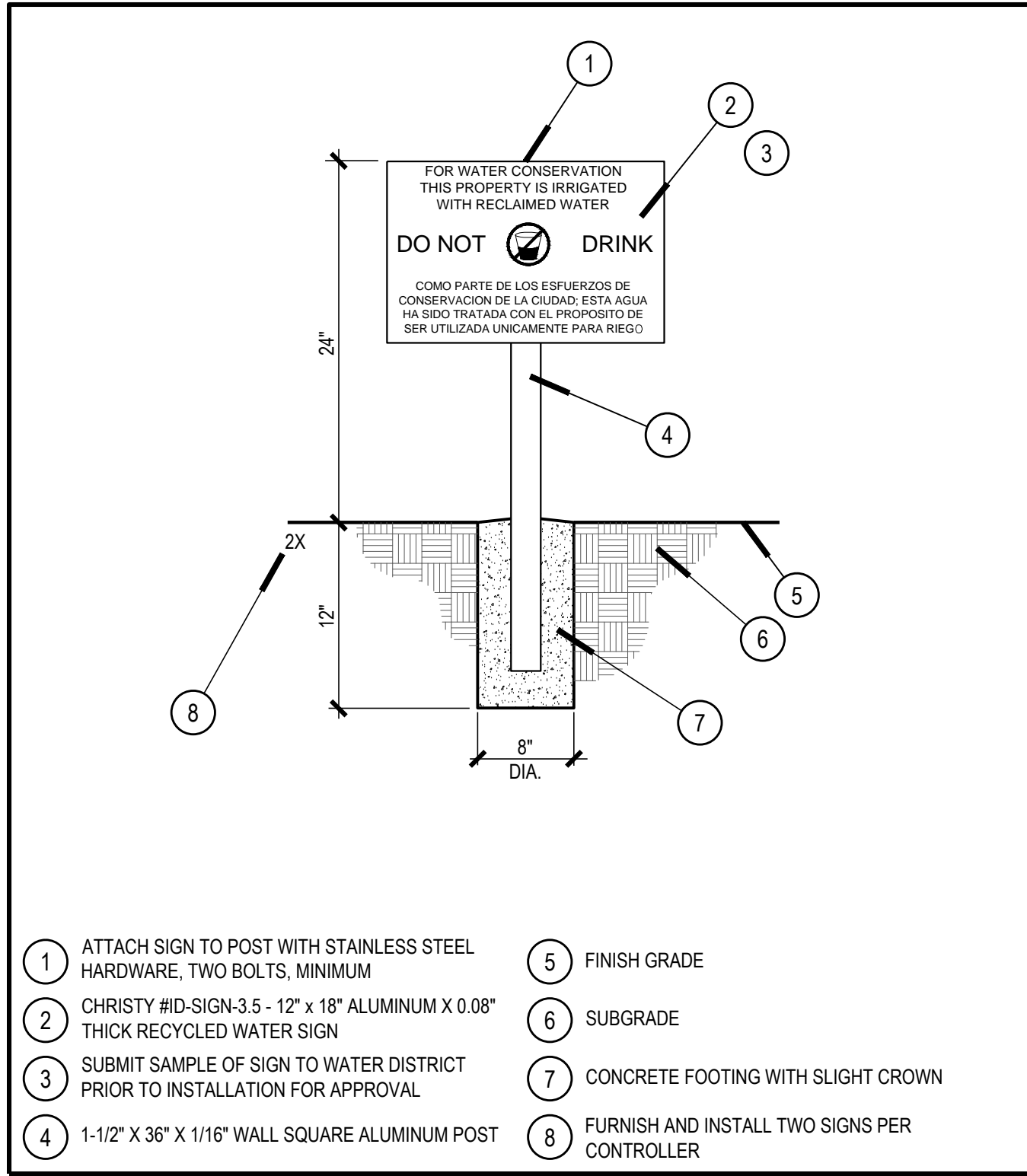


CONTROLLER - FRONT MOUNT



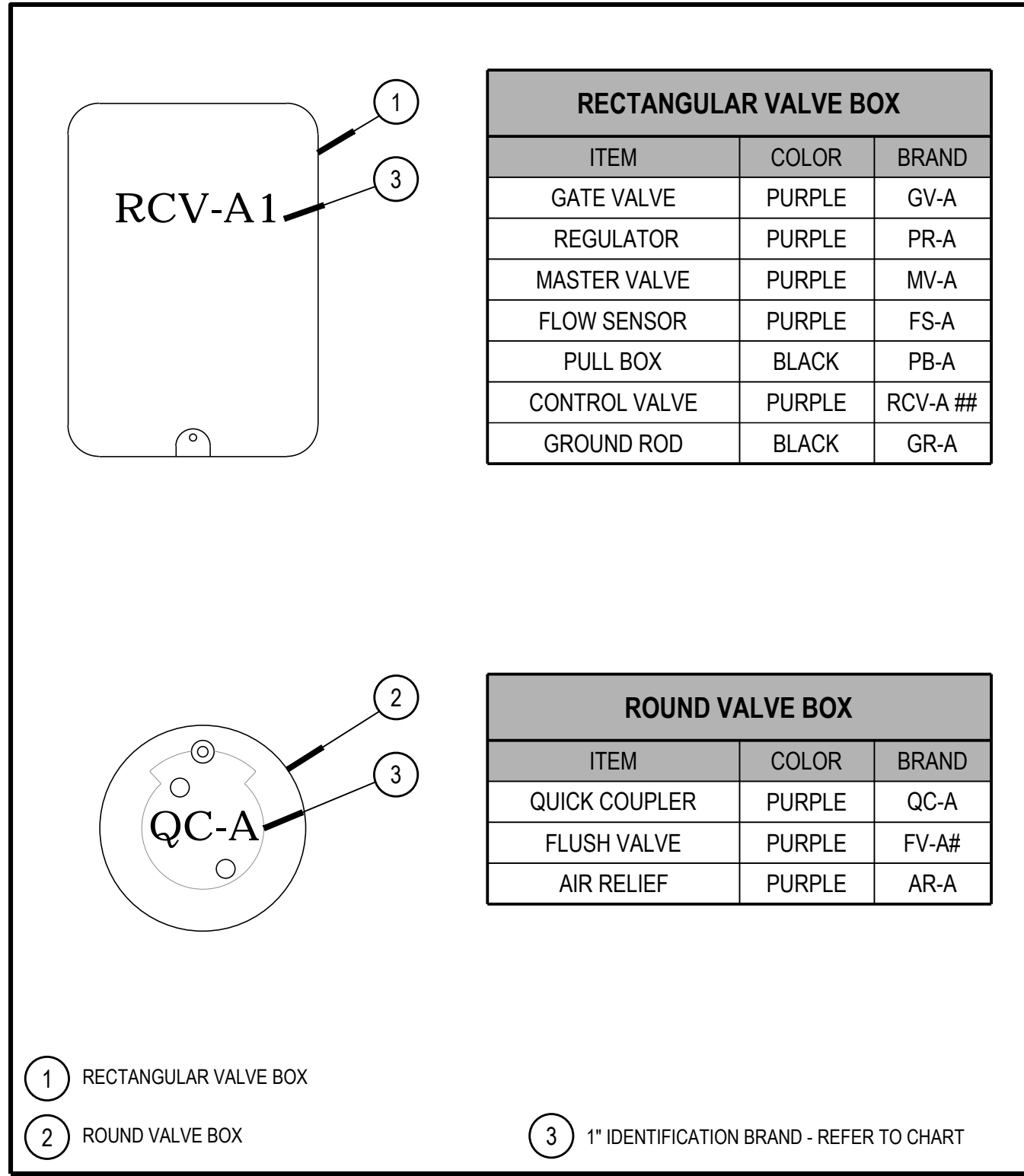
RW / DW SERVICE LINE CROSSING

NO SCALE

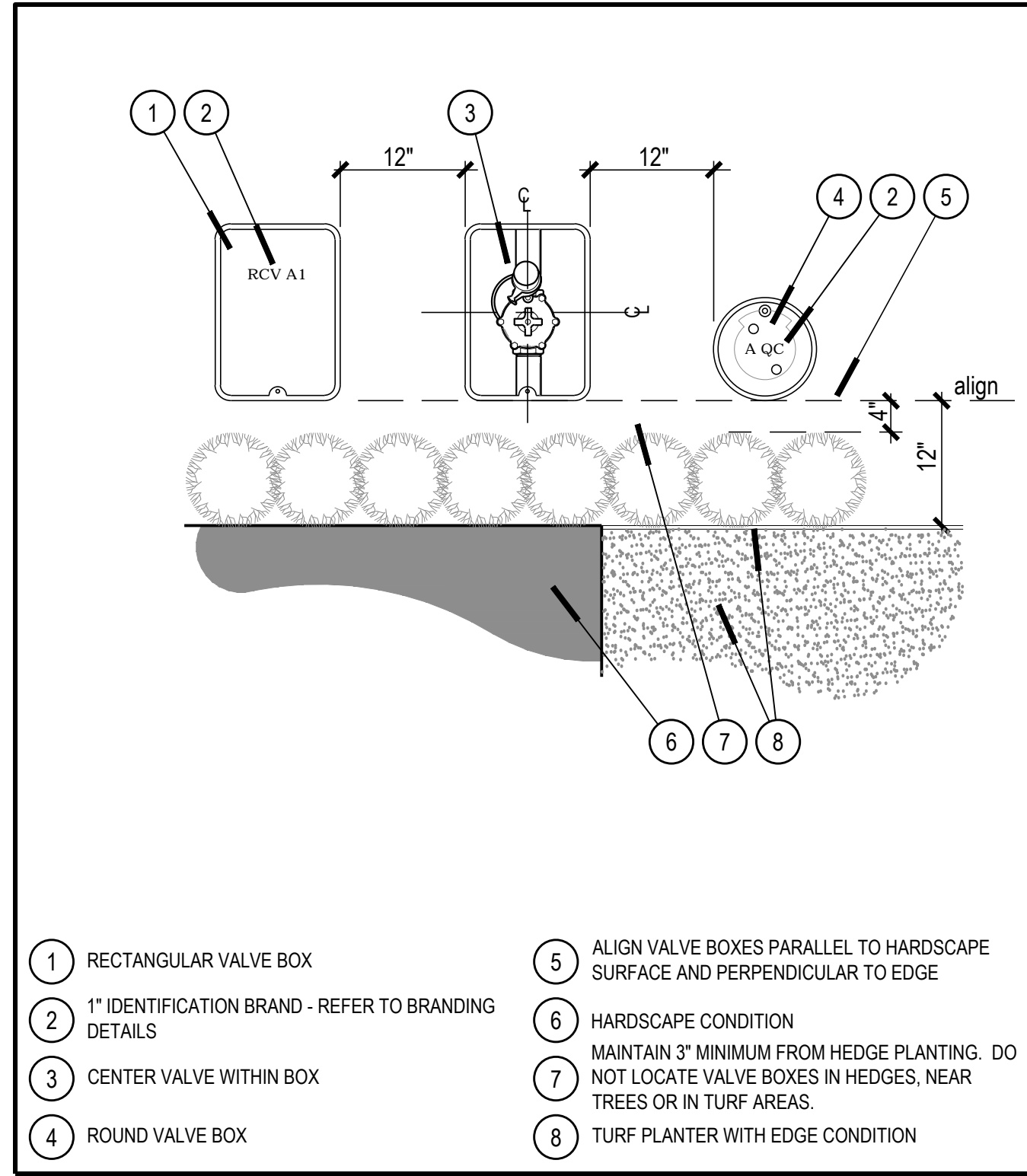


RECYCLED WATER SIGN

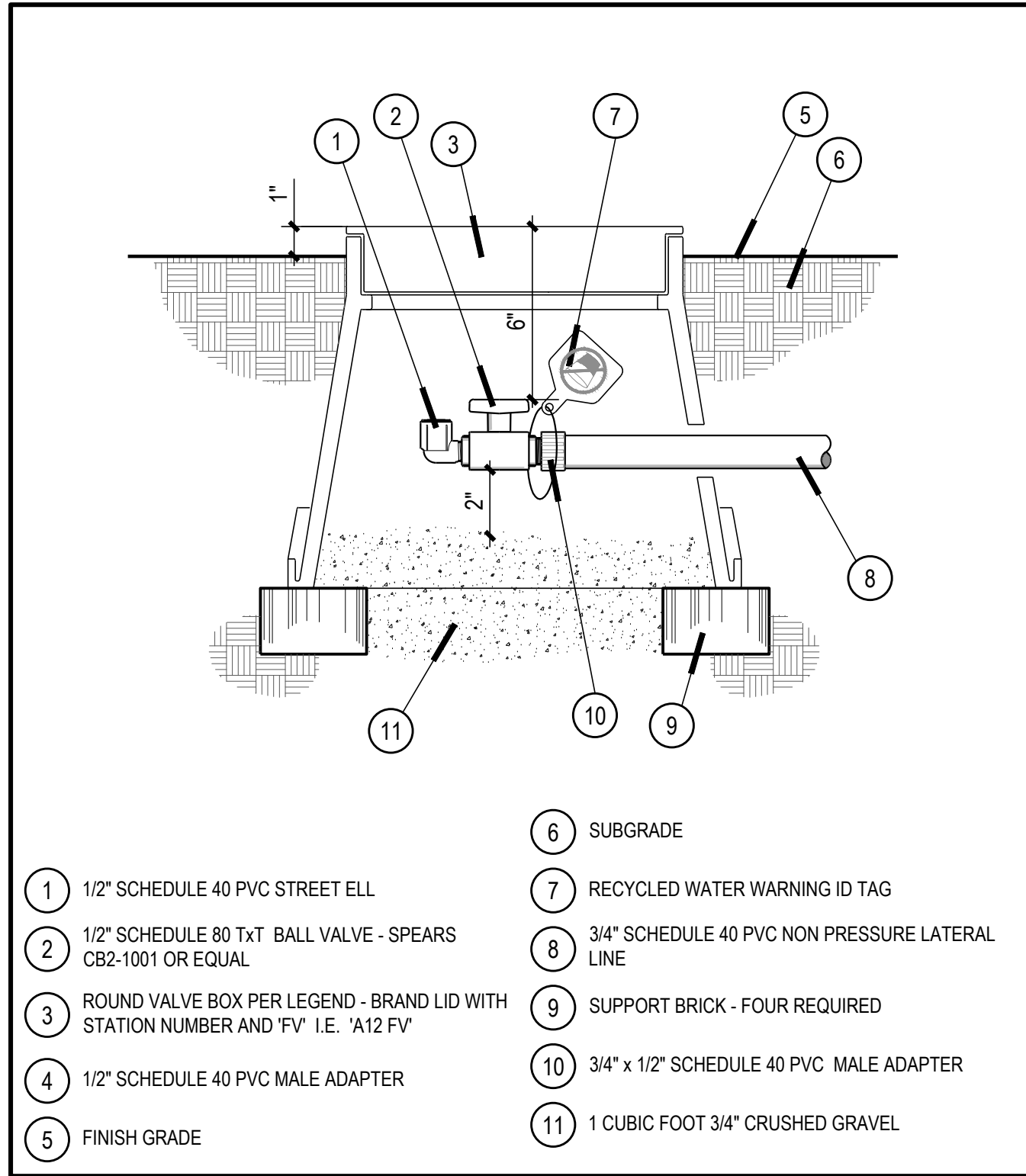
NO SCALE



VALVE BOX BRANDING - RECYCLED WATER

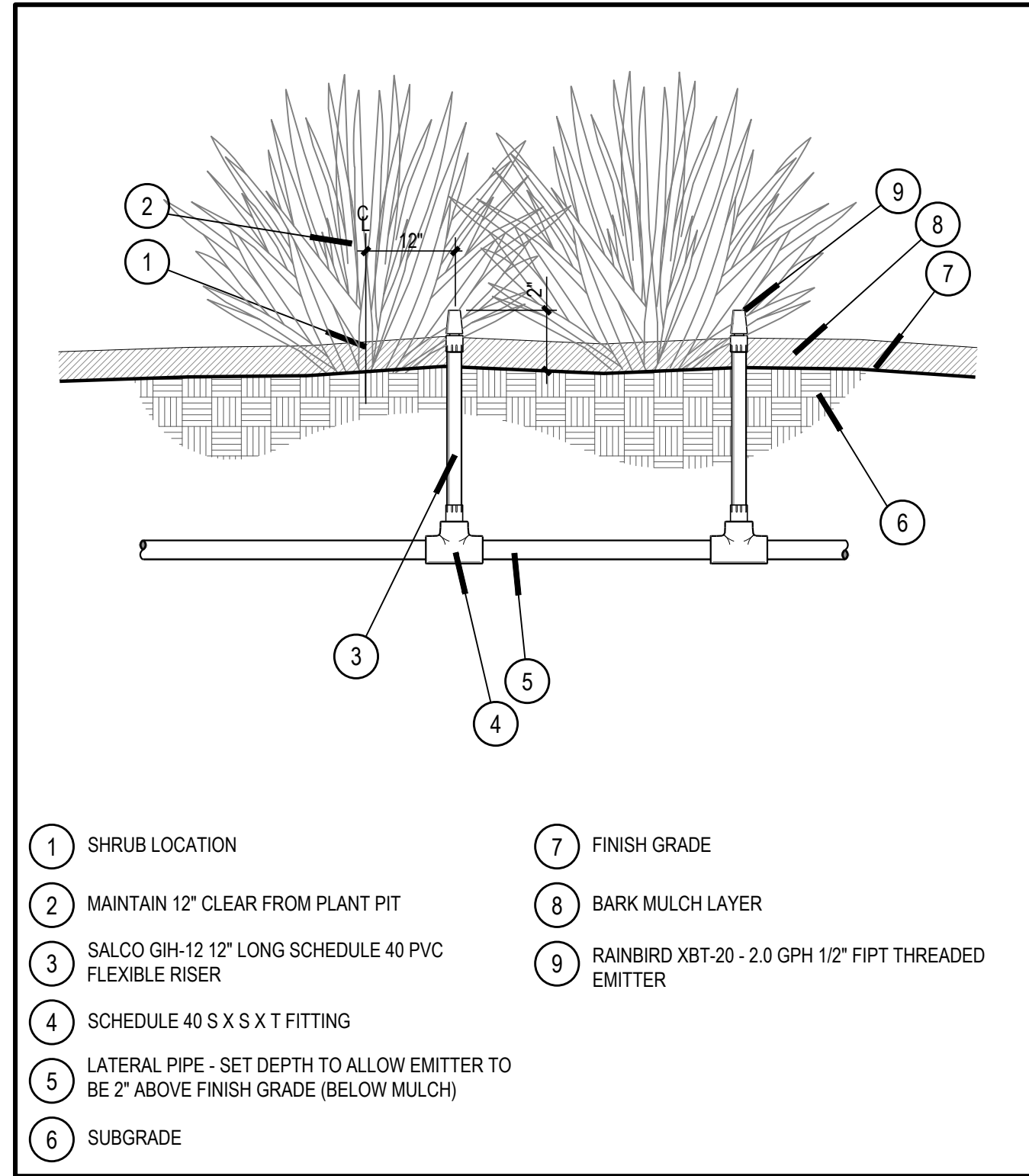


VALVE BOX LAYOUT



FLUSH VALVE DETAIL

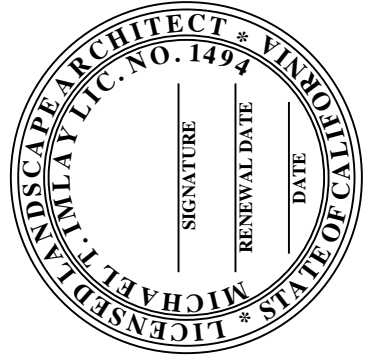
NO SCALE



SHRUB DRIP DETAIL

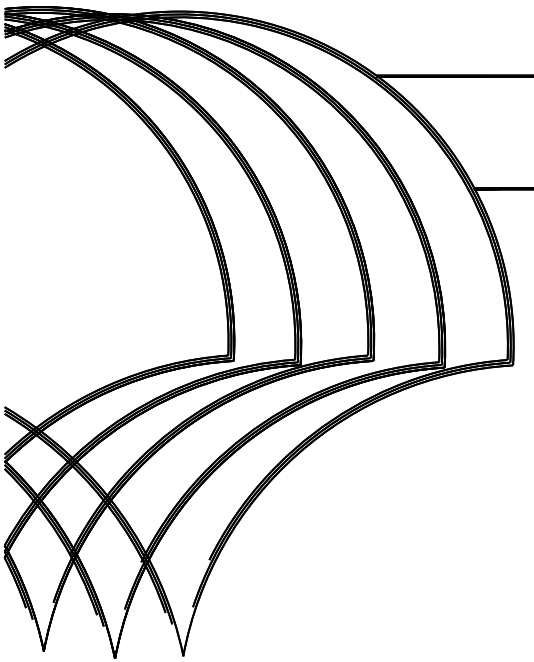
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REVISIONS

IRRIGATION POINT OF CONNECTION AND CONTROLLER CHANGES S.H. 5/5/14



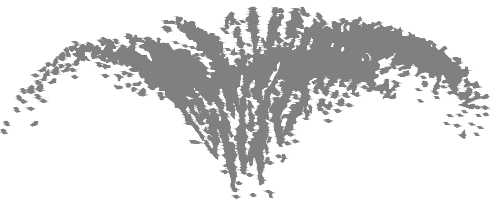
PUEBLO PARK

Torrance, California

Landscape Improvement Plans

City of Torrance
3031 Torrance Blvd
Torrance, CA 90503
(310) 781-7539

IRRIGATION DETAILS



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Landscape Irrigation Consulting
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(949) 555-0424 (949) 555-0425 FAX

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P. Stevens
approved by:

drawn by:
Water Concern
date:
04/02/14
scale:
No Scale

S H E E T
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